The PET™ Personal Computer

commodore

PET™ Plus.....

2001-16/32

The PET™ is now a truly sophisticated Business System with the announcement of these Peripherals.

The PET™, incorporated with the Floppy Disk and Printer makes an ideal business system for most professional and specialized fields: medicine, law, dental, research, engineering, toolmaking, printing, education, energy conservation, etc. . . The PET™ Business System as a management tool, delivers information to all levels of Business, previously attainable only with equipment many times more expensive. The PET™ Business System is one of the most cost efficient business tools today. It offers a wide range of applications from logging management strategy in major corporations to organizing accounts and inventory control of small businesses. Here are just a few of the cost-saving uses in the corporation, professional office or small business: stock control, purchasing, forecasting, manufacturing costing, customer records, mailing lists, etc. . . The PET™, Floppy Disk and Printer, a compatible business system at a reasonable price — Take a closer look at these Peripherals . . .

Specifications:

Dimensions: 16½" wide by 18½" deep, 14" overall height
Weight: 44 lbs.

MEMORY
Random Access Memory 16 or 32K bytes
Read Only Memory (operating system resident in the computer): 14K bytes
8K+ — BASIC interpreter
4K — Operating system
1K — Machine language monitor

VIDEO DISPLAY UNIT
9" monochrome CRT
1000 character display, 40 x 25
8 x 8 dot matrix for characters
64 standard ASCII characters; 64 graphic characters

KEYBOARD: Business or Number Pad Version
Screen Control: home, clear, up, down, left and right
Editing: Character insertion and deletion

OPERATING SYSTEM will support multiple languages (BASIC resident)
Machine language accessibility.
File management in operating system.
Random number generation or pseudo random sequence.

INPUT/OUTPUT
I/O supported through IEEE-488 instrument interface for multiple intelligent peripherals. Memory mapped I/O user port.
All I/O automatically managed by operating system software.
Single character I/O with GET command.

BASIC INTERPRETER
Expanded 8K BASIC.
Strings, integers and multiple dimension arrays.
High precision (9 significant digits).
Direct memory access through PEEK and POKE commands.
Additional sockets are provided on board for 8K ROM expansion.
ROMs for assembler or disk O.S. may be inserted.

Professional Peripherals

2040

Dual Drive Floppy Disk

The Dual Drive Floppy is the latest in Disk technology with extremely large storage capability and excellent file management. As the Commodore disk is an "Intelligent" peripheral, it uses none of the RAM (user) memory of the PET™. The Floppy Disk operating system used with the PET™ computer enables a program to read or write data in the background while simultaneously transferring data over the IEEE to the PET™. The Floppy Disk is a reliable low cost unit, and is convenient for high speed data transfer. Due to the latest technological advances incorporated in this disk, a total of 360K bytes are available in the two standard 5¼" disks, without the problems of double tracking or double density. This is achieved by the use of two microprocessors and fifteen memory I.C.s built into the disk unit. Only two connections are necessary — an A/C cord and PET™ interface cord.

Specifications:

Microcomputer system devices
Controller
- 6504 microprocessor
- 6530 I/O, RAM, and 1K ROM software
- 6316 2K ROM for encoding & decoding disk data
- 6522 I/O and interval timers

File interface
- 6502 microprocessor
- (2) 6532 RAM, I/O, interval timers
- (2) 6332 4K ROM each (total 8K disk operating system)

Shared RAM
- (8) 6114 1K x 4 bit static RAM (total 4K bytes)

Disk drives
(2) Shugart Associates SA390 drives
standard minifloppy (5¼" disk)
activity LED's light when a file is open on that drive

Power requirements
50 watts @ 120 VAC
line frequency independent
other line voltage options to be announced

(Cont'd over)

2022

Tractor Feed Printer

The Tractor Feed Printer is a high specification printer that can print onto paper (multiple copies) all the PET™ characters — letters (upper and lower case), numbers and graphics available in the PET™. The tractor feed capability has the advantage of accepting mailing labels, using standard preprinted forms (customized), cheque printing for salaries, payables, etc. Again, the only connections required are an A/C cord and PET™ connecting cord. The PET™ is programmable, allowing the printer to format print for: width, decimal position, leading and trailing zero's, left margin justified, lines per page, etc. It accepts 8½" paper giving up to four copies. Bidirectional printing enables increased speed of printing.

Specifications:

Microcomputer System Devices
6504 Microprocessor
6522 I/O, interval timer (2)
6114 1K x 4 RAM (2)
6332 4K x 8 ROM

Printer Mechanism
Manufactured by C. Itoh Electronics, Inc. Model No. 820
Tractor feed
Epson DH-70 print head
Dot matrix — 7 x 6 — 80 columns per line
Impact print — original plus 3 copies
Print rate is 84 LPM (112 CPS)
Bi-directional printing
Forms: 8.5+ plus .5+ x 2 (sprocket margins)
Pin to pin distance .5+ Longitudinally
9.0+ Laterally
5/32+ Diameter

Packaging
18 gauge all steel cabinet
Dimensions: width — 17+, depth — 18+, height — 6+
Forms enter from rear or bottom of cabinet.

Power
150 watts 120 or 220 or 240V AC
50 or 60 Hz

(Cont'd over)

2040
Dual Drive Floppy Disk

Packaging
18 gauge all steel cabinet
Dimensions: width — 15", depth — 14.35", height — 6.5"
Cover hinges from base for servicing

Diskette organization
Formatting is by the drive itself — any mini-floppy diskette may be used
35 concentric tracks
constant density recording on each track
varying number of sectors per track —
innermost: 17 outermost: 21
176640 bytes on a single side
Track 18 used for directory
171520 bytes for user storage
Soft-sectoring
Diskettes for dual side recording may be used

Data interface
IEEE-488
Standard 24-pin stacking connector
Device #8-15 by jumper option
full listener — talker
recognizes secondary addressing

Floppy Disk Command set (summary)

		Notes
D	:=	Drive #, 0 or 1
E	:=	IEEE device # of floppy
L	:=	Logical file #
C	:=	Channel # (2<= C <=15)
CL	:=	Logical file # for command channel
*	:=	Pattern symbol matches any number of characters
?	:=	Pattern symbol matches exactly one character

"?" may appear anywhere, "*" may only appear on right side of pattern.

Example: "N?M*" matches
"NEW", "NUM", "NAME", "NUMBER"

Files must begin W/ cap letter from A to Z & may have 16 characters.

Pattern matching W/ file names may be used only when:
Loading directory ($)
Scratching files
Opening read channels
Loading programs

Default drive #'s may be used in most cases.
Using a ":" without a drive # indicates a default to the previously determined drive #. A file name with no drive # or ":" indicates that the file is to be looked up on both drives, beginning with the previously determined drive #. A ":" must separate commands from file names as described above.
Commands may be abreviated to any form that retains the 1st char.

2022
Tractor Feed Printer

Data Interface
IEEE-488
Standard 24-pin stacking connector
Device #4-7 by jumper option
Listener only
Recognizes secondary addressing

Character Set
Upper case ASCII
Lower case ASCII
PET™ graphics

Control Characters
- Enhance printing (doubles size)
- Enable automatic line count and paging
- Page eject
- Print reverse field
- Overprint a line
- Switch to graphics character set
- Switch to lower case character set
- Print programmable character

IEEE Secondary Address Commands
- Print data exactly as received
- Accept characters as a format
- Edit data to format
- Alter number of lines per page
- Enable diagnostic messages to print
- Accept data for programmable character

Data Formatting Capability
- Field width and decimal position specified
- Leading or trailing sign
- Fixed or floating dollar sign
- Forced leading zeroes
- Literal characters always printed
- Alpha fields left justified

Diagnostic Messages
- Can be turned on when desired
- Print on paper
- Describe problems with format and data

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PET™ Plus.....

2021

Electrostatic Printer

The Electrostatic Printer is a superb, low cost and extremely reliable printer, with only 4 moving parts for reduced maintenance operation. It utilizes the electrostatic principle using electrons in place of impacting pins, as in the standard mechanical head printer. This principle enables longer life in addition to enhanced reliability. Even this low cost unit will print all the PET™ characters, letters (upper and lower case) numbers and graphics. It lacks the fading problems of thermal printers, will accept ball point ink or pencil and it can be photocopied. Only an A/C Cord and PET™ connecting cord are required for immediate operation. The Electrostatic Printer is suitable for use with any of the PET™ models. It's ideal for the building of an amazingly low cost business system.

Specifications:

150 Lines per Minute
5 x 8 Dot Matrix
64 Standard ASCII + 64 Graphic Characters
Power ON/OFF
Line Feed
Auto motor control turns motor off when no data is received.
Parallel input at TTL levels, for use through user port. (Optionally connected through IEEE port.)

Electrical Requirements
50/60 Hz, 110/240 VAC,
40 watts

Physical Dimensions
Weight: 11 lbs
Width: 14"
Height: 5"
Depth: 11"

Paper
Aluminum coated — 2" dia. roll paper

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2041

Mini Floppy Disk (Single Drive)

The Mini Floppy Disk is a low cost unit with excellent specifications for a high speed data transfer and storage device. It operates through the memory expansion port of the PET™, and is commanded in exactly the same way as the Commodore cassette systems, ie. LOAD "NAME", 4; SAVE "NAME", 4; OPEN 1, 4: CLOSE 1, 4; PRINT #4; INPUT #4. The disk contains limited electronic components, and is therefore slower and less sophisticated than the 2040 Dual Drive Floppy Disk. However, three I.C.s are provided with this unit, which plug into the standard PET™ 2001-16/32. The Mini Floppy Disk has been designed for ease in operation by amateur and professional alike. The combination of the PET™ with the Single Drive Floppy Disk and a Commodore Printer is an ideal system for the professional small business man or hobbyist on a tight budget.

Specifications:

This is a single floppy disk drive which attaches to the memory bus of the PET™ 2001-16 or 2001-32. It is not as fast as the 2040 because it does not have its own microprocessor system to buffer data while the main PET™ is functioning.

A disk operating system is provided in (2) 6332 ROMs which are inserted into already existing sockets on the PET™ 2001-16 or 2001-32. Additionally, one existing 6332 is replaced by another ROM provided with the disk.

Disk Drive
Shugart Associates SA390 Drive
Standard mini floppy (5 and a quarter inch disk)

Power for the drive is provided from the PET™ 2001.

The disk operating system addresses the 2041 by the same commands as the cassette operating system. It is referenced as Device #4.

0 — Keyboard
1 — Cassette #1
2 — Cassette #2
3 — Screen display
4 — 2041 floppy drive

Diskette format is compatible with the 2040 as is all software and commands.

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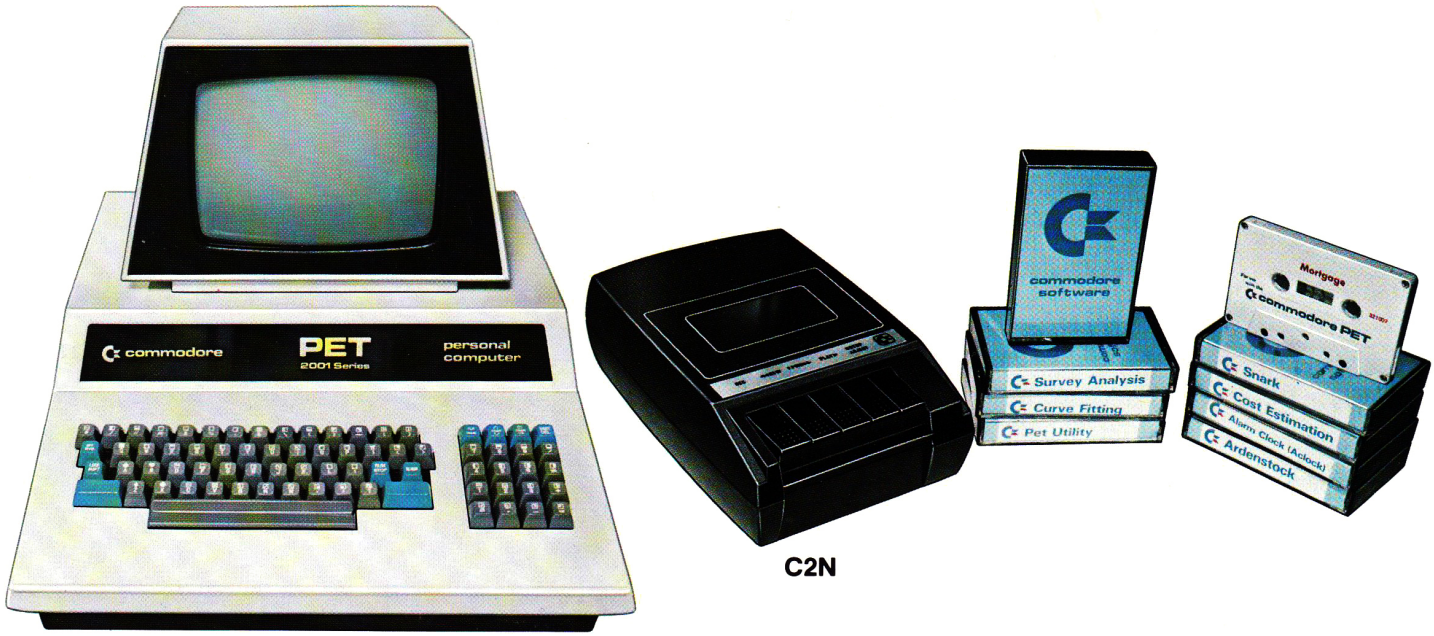

C2N

External Cassette

The C2N Cassette is an economical data storage and retrieval device for use with the PET™ as a single unit for loading and saving programs. Twin cassettes enable file handling and updating. It uses standard audio cassette tapes available in stores everywhere. The C2N features a Double Save technique at different audio frequencies ensuring error correction. The verify command feature provides correct saving of programs. The C2N Cassette is the perfect low cost device for a variety of programming functions.

Specifications:

Fast Commodore designed redundant-recording scheme, assuring reliable data recovery;

Cassette drive modified by Commodore for much higher reliability of recording and record retention;

High noise immunity, error detection, and correction;

Tape files, named.

Commands:

LOAD	ie. LOAD "NAME", 2
SAVE	ie. SAVE "NAME", 1, 1
VERIFY	ie. VERIFY "NAME", 2
OPEN	ie. OPEN 1, 2, 0, "NAME"
CLOSE	ie. CLOSE 1

Software

Many pre-recorded programs covering educational, business, technical, entertainment and other fields are available from Commodore and its retailers.

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